

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO: 89-106

UPDATED WASTE DISCHARGE REQUIREMENTS, RESCISSION OF ORDER 81-67

LOCKHEED MISSILE AND SPACE COMPANY., INC.  
SUNNYVALE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Lockheed Missile and Space Company (hereinafter called the discharger) conducts aerospace research and fabrication at a site located north of Highway 237, east of Moffett Field and generally west of Mathilda Road in Sunnyvale, Santa Clara County. A location map is included in Attachment A.
2. The Board on December 16, 1981, adopted Waste Discharge Requirements, Order No. 81-67, establishing standards for the construction, operation and monitoring of a proposed industrial on-site waste treatment, reclamation and storage facility. The treatment facility consisted of two holding ponds and two evaporation ponds.
3. The two holding ponds regulated under Order No. 81-67 are artificially lined have a total capacity of 2.94 acre-feet, and continue to be used for equalization and stabilization of rinse water. The rinse water effluent includes diluted wastes from rinse tanks, quench waters, floor drainage and contaminated area drainage of eight chemical process facilities. The rinse water contains low concentrations of oils and organics and has a pH within the range of pre-treatment requirements. It also contains low concentrations of heavy metals, usually less than 0.5 mg/l, and cleaning compounds (nitrates, phosphates, chlorides and sulfates). The ponds are classified as Class II surface impoundments and are subject to the California Code of Regulations, Title 23, Chapter 3, Subchapter 15.
4. Average daily flow rate of approximately 300,000 gallons is discharged from the holding ponds to the Sunnyvale Publicly Owned Treatment Works (POTW) under an existing pre-treatment program.
5. The two evaporation ponds, regulated under Order No. 81-67, are no longer in operation. They were constructed as double lined, above ground evaporation ponds with leachate collection systems for storage of hazardous wastes. These ponds stored concentrated acids, alkali, neutral salt baths or other chemical compounds which were used for cleaning, pickling, plating, etching and anodizing operations.

6. The discharger removed all wastes from the evaporation ponds and cleaned the liners in accordance with an approved closure plan. The evaporation ponds were certified clean closed on June 29, 1987.
7. Ground water monitoring has been conducted for pH, specific conductance, normality, TOC, cyanide and all metals discharged to the ponds (silver, beryllium, cadmium, cobalt, total and hexavalent chromium, copper, nickel, lead and zinc). Shallow groundwater in the vicinity of the ponds is tidally influenced and does not meet standards for drinking water. Only the deep (160+ ft.) groundwater zone produces consistently good quality water. Monitoring of groundwater during the period of operation of the ponds and after closure did not show release of any contaminants from the ponds into underlying native material or geologic units.
8. The Board adopted Site Cleanup Requirements, Order No. 88-13, on January 20, 1988. The Order required the discharger to perform a site-wide comprehensive hydrogeologic investigation to define the lateral and vertical extent of waste constituents in ground water. Contaminant plumes were identified upgradient of wells monitoring the ponds referred to above, and are therefore considered not to be related to pond operation.
9. The actual or potential beneficial uses of the groundwater underlying and adjacent to the facility include:
  - a. Industrial process water supply
  - b. Industrial service water supply
  - c. Agricultural water supply
10. The existing beneficial uses of South San Francisco Bay include:
  - a. Estuarine habitat
  - b. Shellfish harvesting
  - c. Fish migration
  - d. Preservation of rare and endangered species
  - e. Migratory waterfowl refuge
  - f. Wildlife habitat
  - g. Commercial and sports fishing
  - h. Water contact and non-contact recreation
  - i. Navigation
  - j. Industrial service supply
11. This is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
12. The Board has notified the discharger and interested agencies and persons of its intent to prescribe Updated Waste Discharge Requirements and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

13. The Board in a public meeting heard and considered all comments pertaining to the changes in monitoring and reporting requirements.

IT IS HEREBY ORDERED that Lockheed Missile and Space Company Inc. shall meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and shall also comply with the applicable Sections and Articles of Subchapter 15 of Title 23, of the California Code of Regulations.

A. PROHIBITIONS

1. The discharge of toxic wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Significant migration of pollutants through subsurface transport to waters of the State is prohibited.

B. SPECIFICATIONS

1. In the event that leakage from the liner of the holding ponds is detected in the lysimeters or monitoring wells, all discharges to the ponds shall immediately cease and the remaining wastes shall be promptly removed from the ponds. Discharge to the ponds after repairs have been completed shall not resume without approval of the Executive Officer. This Board shall be notified immediately by telephone if leakage is detected, such notification to be confirmed in writing within one week from the date of such occurrence.

C. PROVISIONS

1. Order No. 81-67 dated December 16, 1981 is hereby rescinded.
2. The discharger shall submit Monitoring Reports in accordance with a self monitoring program as approved by the Executive Officer.
3. In accordance with Section 13263 of the Water Code, these requirements are subject to periodic review and revision by this Regional Board.
4. The discharger shall operate the waste management facility so as not to cause a statistically significant difference to exist between water quality at the compliance points and Water Quality Protection Standards (WQPS) to be established for the following parameters. The discharger shall establish these WQPS according to the requirements of this Order and Article 5 of Subchapter 15 within one year of adoption of this Order.
  - a. pH=
  - b. Specific Conductivity=
  - c. Chloride=
  - d. Total Organic Carbon=
  - e. Nitrate Nitrogen=
  - f. Total Kjeldahl Nitrogen=

- g. Total Phenol=
- h. Total Dissolved Solids=
- i. Arsenic=
- j. Total Chromium=
- k. Copper=
- l. Nickel=
- m. Zinc=
- n. Lead=

5. The discharger shall comply with all prohibitions, specifications and provisions of this Order immediately upon its adoption.

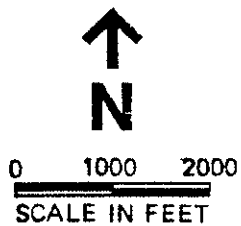
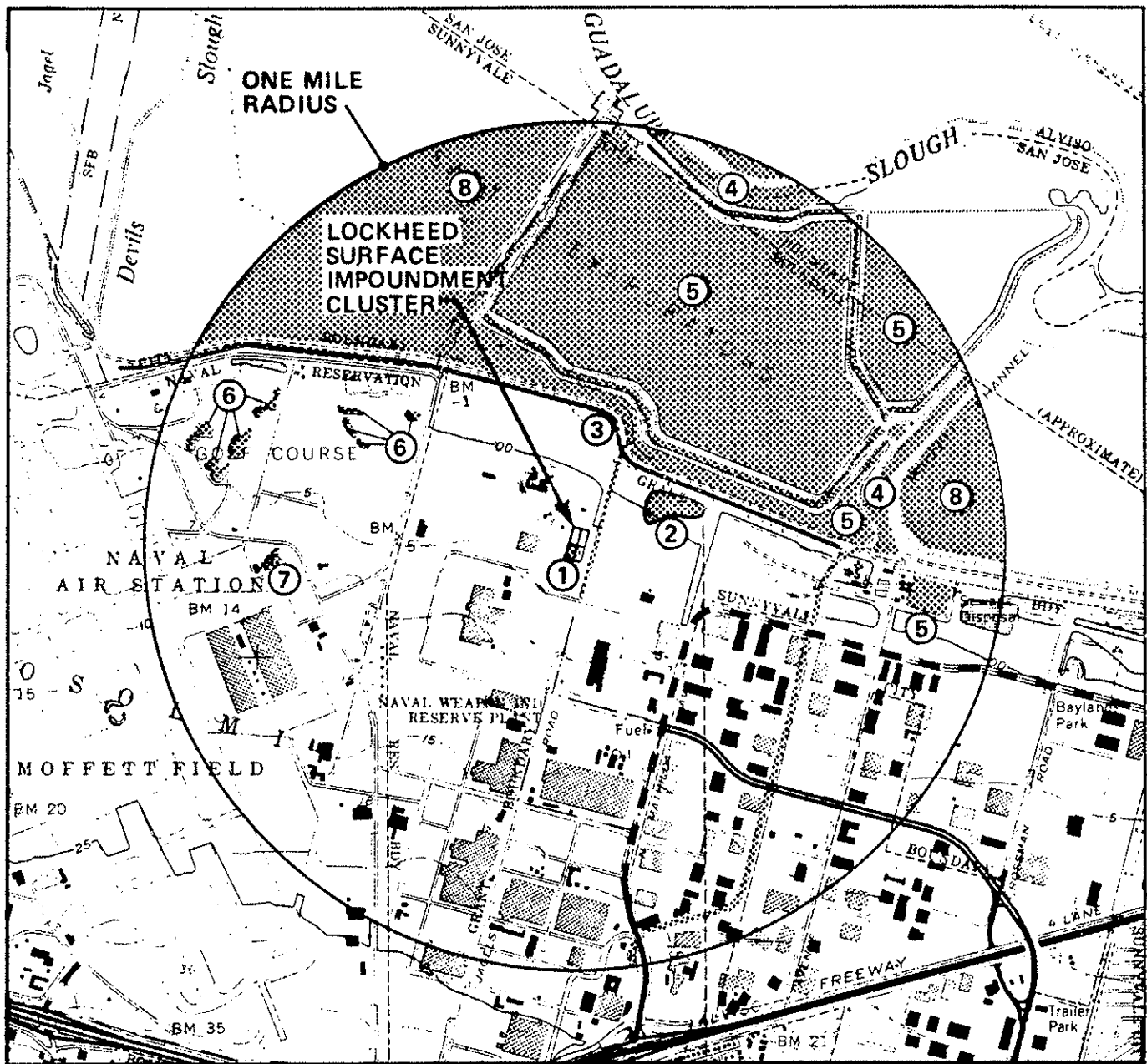
I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 21, 1989.



STEVEN R. RITCHIE  
Executive Officer

Attachments:

Site Map  
Self Monitoring Plan



**KEY :**

- |   |   |
|---|---|
| ① LOCKHEED HOLDING PONDS                                | ⑤ CITY OF SUNNYVALE WATER POLLUTION CONTROL PLANT AERATION AND DISPOSAL PONDS |
| ② LOCKHEED WILDLIFE REFUGE                              | ⑥ MOFFETT FIELD GOLF COURSE WATER PONDS                                       |
| ③ LOCKHEED AND MOFFETT FIELD STORMWATER RUNOFF CHANNELS | ⑦ MOFFETT FIELD PONDS   |
| ④ MOFFETT CHANNEL/GUADALUPE SLOUGH                      | ⑧ LESLIE SALT EVAPORATION PONDS   |

FIGURE #1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

LOCKHEED MISSILE AND SPACE COMPANY, INC.

1111 LOCKHEED WAY  
SUNNYVALE, SANTA CLARA COUNTY

WASTE DISCHARGE REQUIREMENTS

ORDER NO. 89-106

CONSISTS OF

PART A

AND

PART B

## PART A

### A. General

1. Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16.
2. The principal purposes of a self-monitoring program by a waste discharger are the following:
  - a. To document compliance with waste discharge requirements and prohibitions established by the Board;
  - b. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge;
  - c. To develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards; and,
  - d. To prepare water and wastewater quality inventories.

### B. Sampling And Analytical Methods

1. Sample collection, storage, and analyses shall be performed according to the most recent version of Standard Methods for the Analysis of Wastewater, and Test Methods for Evaluating Solid Waste EPA Document SW-846, or other EPA approved methods and in accordance with an approved sampling and analysis plan.
2. Water and waste analysis (except total suspended solids) shall be performed by a laboratory approved for these analyses by the State Department of Health. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.
3. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

### C. Definition Of Terms

1. A grab sample is a discrete sample collected at any time.
2. Duly authorized representative is a duly authorized representative may thus be either a named individual or any individual occupying a named position such as the following:
  - a. Authorization is made in writing by a principal executive officer; or,

b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietor in a sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.

D. Schedule Of Sampling, Analysis, And Observations

1. The discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B, and the requirements in Subchapter 15.
2. A statistical analysis shall be performed and reported annually as described in the current revision of Appendix II of Subchapter 15.

E. Records To Be Maintained By The Discharger

1. Written reports shall be maintained by the discharger for ground water monitoring and wastewater sampling, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

- a. Identity of sample and sample station number;
- b. Date and time of sampling;
- c. Method of composite sampling (See Section C-Definition of Terms);
- d. Date and time that analyses are started and completed, and name of the personnel performing the analyses;
- e. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used. A reference to a specific section of a reference required in Part A Section B is satisfactory;
- f. Calculation of results;
- g. Results of analyses, and detection limits for each analyses; and,
- h. Chain of custody forms for each sample.

F. Reports To Be Filed With The Board

1. Written self-monitoring reports shall be filed by the 15th day of the month following the report period. The report period shall be semi-annually except for surface water discharges monitoring which shall be monthly. For semi-annual ground water monitoring reports, written reports shall be filed regularly each 6 months within forty-five days from the end of the monitoring period. In addition an annual report shall be filed as indicated in G.3. The reports shall be comprised of the following:

- a. Letter of Transmittal - A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or

planned for correcting the violations, such as, operation and/or facilities modifications. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. The letter shall contain the following certification:

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

b. Each monitoring report shall include a compliance evaluation summary sheet. Until the Order is amended to specify ground water protection standards, the following shall apply and the compliance sheet shall contain:

(1) The method and time of water level measurement, the type of pump used for purging, pump placement in the well, method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature, conductivity and turbidity testing, well recovery time, and method of disposing of the purge water; and,

(2) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations; the chain of custody record.

c. A summary of the status of any remediation work performed during that quarter. This shall be a brief and concise summary of the work initiated and completed as follows:

- (1) As interim corrective action measures; and,
- (2) To define the extent and rate of migrations of waste constituents in the soil and ground water at the site.

d. The discharger shall describe, in the quarterly report, the reasons for significant increases in a pollutant concentration at a well onsite. The description shall include the following:

- (1) The source of the increase;
- (2) How the discharger determined or will investigate the source of the increase; and,
- (3) What source removal measures have been completed or will be proposed.

e. On a semi-annual basis, a map or aerial photograph showing observation and monitoring station locations, and plume contours for each chemical in each aquifer shall be included as part of the quarterly Self-Monitoring Report.

f. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board. The following information shall be provided:

- (1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review; and,
- (2) In addition to the results of the analyses, laboratory quality control/quality assurance (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that is less than 80%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

g. By January 31 of each year the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

- (1) Tabular and graphical summaries of the monitoring data obtained during the previous year;
- (2) A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements; and,
- (3) A written summary of the ground water analyses indicating any change in the quality of the ground water.

2. In the event the discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to experience a plant bypass or treatment unit bypass due to:

- a. Maintenance work, power failures, or breakdown of waste treatment equipment, or;
- b. Accidents caused by human error or negligence, or;
- c. Other causes, such as acts of nature.

The discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within 7 working days of the telephone notification. The written report shall include time and date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

In addition, the waste discharger shall promptly accelerate his monitoring program to analyze the discharge at least once every day. Such daily analyses shall continue until such time as the effluent limits have been attained, until bypassing stops or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

PART B  
DESCRIPTION OF SAMPLING STATIONS AND GROUND WATER ANALYSES TO BE PERFORMED  
BI-ANNUALLY.

GROUNDWATER MONITORING

I. Description of Sampling Stations (Fig.1)

- a. 175-5 to 175-7      Groundwater monitoring wells  
    175-1B to 175-4B    which monitor the periphery of the  
                             closed PWTRF.
- b. SL 1 to SL 6        The six lysimeters (SL 1-6) located to monitor  
                             the ground waters beneath the two holding ponds.
- c. W-3, W-4            The water in the holding ponds (W-3 & 4).

II. Miscellaneous Reports

To assure stability of temperature, pH and specific conductance and water table elevation, measurements shall be taken at the beginning and end of well purging.

1. Parameters for all field measurements must be obtained and reported to furnish the following:

LOCATION	DATE & TIME	TEMPERATURE	pH	SPECIF. CONDOC.	WATER LEVEL
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2. The discharger shall submit to the Board copies of all rinse water holding pond effluent analyses within 10 days of submittal to the Sunnyvale POTW.
3. The discharger shall submit to the Board acceptable monitoring program reports containing the results of work performed and comparisons with analytic results obtained during the previous sampling episode, together with analyses of significant variations, according to the analytic program as set forth in this section.
4. The discharger shall conduct groundwater monitoring activities. Should monitoring results show evidence of waste constituent migration from the holding ponds, the discharger shall submit a remedial action proposal within 45 days.

### III. Schedule of Sampling and Analyses

#### ANALYTIC PARAMETERS

PARAMETER	Holding Pond W-3, W-4	Lysimeters SL-1 to 6	Monitoring Wells 175-5 to 175-7 175-1B to 175-4B
pH	6M	6M	6M
Spec. Cond.	6M	6M	6M
Cr+6	6M	6M	6M
Cyanide	6M	6M	6M
TOC	6M	6M	6M
Total Metal	6M	6M	6M
TDS		6M	6M
STM		6M	6M
Chloride			6M
Manganese			6M
Iron			6M
TOX			6M
SO <sub>4</sub>			6M
Phenol			6M
TCA			6M
1,2 DCA			6M
PCE			6M
TCE			6M
FTF			6M
Turbidity in NTU units			6M

6M = Every 6 months

1. Monitoring well water samples shall be field filtered if turbidity exceeds 50 NTU units.

### IV. Modifications to Part A


#### Section F. 1.

1. Monitoring reports shall be submitted by April 1 and October 1 of each year beginning with October 1989.

I, STEVEN R. RITCHIE, Executive Officer, hereby certify that the foregoing Self Monitoring Program:

1. Has been developed as set forth in this Regional Boards Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Order No. 89-106.
2. Has been ordered by the Executive Officer on the date shown below and becomes effective immediately.

3. May be reviewed at any time upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

  
STEVEN R. RITCHIE  
Executive Officer

Date 6/21/09

Attachment:  
Well Location Map

Figure 1

LEGEND:



MONITORING WELL

MW175-1B

MW175-5



0 30 60  
SCALE IN FEET

FORMER

LEACHATE

MONITORING

F STREET

PUMP  
STATION

BLDG 175

CONTAINERIZED  
HOLDING AREA

TREATMENT  
AREA

MW175-4B

WEST  
EVAPORATION  
POND

EAST  
EVAPORATION  
POND

WEST  
HOLDING POND

EAST  
HOLDING POND

LYSIMETERS

MW175-2B

MW175-6

MW175-3B

MW175-7

CLOSED

CLOSED